

AMENDMENTS TO THE CLAIMS

IN THE CLAIMS

1. (Currently Amended) A method of detecting mild impaired glucose tolerance or an insulin secretory defect in a subject, ~~characterized in that~~ wherein the method comprises:
providing a sample from a subject;
quantitatively determining the myo-inositol level in a sample; and
determining that the subject has mild impaired glucose tolerance or that the subject has an insulin secretory defect based on the concentration of myo-inositol in the sample~~evaluating a~~
~~ease where the level shows,~~
wherein a concentration of myo-inositol at a characteristic value or more as mild impaired glucose tolerance or insulin secretory defect higher than a characteristic value indicates the subject has mild impaired glucose tolerance or the subject has an insulin secretory defect.
2. (Original) The method according to claim 1, wherein the quantitative determination of myo-inositol level in the sample is carried out using an enzyme.
3. (Original) The method according to claim 2, wherein the enzyme is myo-inositol dehydrogenase.

4. (Original) The method according to claim 2 or 3, wherein the quantitative determination of the myo-inositol level using the enzyme is carried out by an enzymatic cycling method.

5. (Currently Amended) The method according to ~~any one of claims 1 to 4,~~
~~characterized in that~~ claim 1 or 2, wherein the myo-inositol level is quantitatively determined after elimination of sugars other than myo-inositol in the sample.

6. (Currently Amended) The method according to claim 5, ~~characterized in that~~
wherein two kinds of kinases are simultaneously used for the reaction of eliminating sugars other than myo-inositol in the sample.

7. (Currently Amended) The quantitative method according to claim 6, ~~characterized in that~~ wherein said two kinds of kinases are ATP-hexokinase and ADP-hexokinase.

8. (Currently Amended) The quantitative method according to ~~any one of claims 4 to 7,~~
~~characterized in that~~ claim 2, wherein thio-NAD is used as a coenzyme at a final concentration of 0.1 mM or more in the reaction of quantitatively determining myo-inositol.

9. (Currently Amended) The quantitative method according to ~~any one of claims 4 to 7,~~
~~characterized in that~~ claim 2, wherein thio-NAD is used as a coenzyme at a final concentration of 2 to 10 mM in the reaction of quantitatively determining myo-inositol.

10. (Currently Amended) The method according to ~~any one of claims 1 to 9~~, claim 1 or 2, wherein the sample is obtained before and after glucose load, or before and after a meal.

11. (Original) The method according to claim 10, wherein the sample is urine.

12. (Currently Amended) The method according to ~~any one of claims 1 to 11~~, ~~characterized in that~~ claim 1 or 2, wherein the sample is urine and the characteristic value is 0 to 20 $\mu\text{g myo-inositol per } [[/]]\text{mg creatinine}$ when measured ~~as an increasing amount of myo-inositol excreted~~ in the urine after 75g glucose load.

13. (Currently Amended) The method according to ~~any one of claims 1 to 11~~, ~~characterized in that~~ claim 1 or 2, wherein the sample is urine and the characteristic value is 8 to 12 $\mu\text{g myo-inositol per } [[/]]\text{mg creatinine}$ when measured ~~as an increasing amount of myo-inositol excreted~~ in the urine after 75g glucose load.

14. (Currently Amended) The method according to ~~any one of claims 1 to 13~~, ~~characterized in that~~ claim 1 or 2, wherein a glucose level in the sample is quantitatively determined in addition to the myo-inositol level in the sample.

15-17. (Cancelled)

18. (Currently Amended) A method of quantitatively determining myo-inositol level in a sample enzymatically using myo-~~Inositol~~inositol dehydrogenase in the presence of thio-NAD or NADH, ~~characterized in that~~ wherein two kinds of kinases are used in combination.

19. (Currently Amended) The method according to claim 18, ~~characterized in that~~ wherein said two kinds of kinases are ATP-hexokinase and an ADP eliminating agent.

20. (Original) The method of eliminating glucose according to claim 19, wherein the ADP eliminating agent is ADP-hexokinase.

21. (Currently Amended) A composition for quantitative determination of myo-inositol, ~~characterized in that the composition at least comprises~~ comprising:

- 1) thio-NAD;
- 2) NADH;
- 3) myo-inositol dehydrogenase; and
- 4) ~~two kinds of kinases~~ ATP-hexokinase and/or ADP-hexokinase.

22-23. (Cancelled)

24. (Currently Amended) The composition for quantitative determination of myo-inositol according to ~~any one of claims~~ claim 21 to 23, ~~characterized in that~~ wherein the composition further comprises a buffer selected from:

Bicine (N,N-Bis(hydroxyethyl)glycine), Tris (Tris(hydroxymethyl)aminomethane),
TEA (Triethanolamine), ~~and/or~~ Tricine (N-Tris(hydroxymethyl)-methylglycine).

25. (Currently Amended) The composition for quantitative determination of myo-inositol according to ~~any one of claims claim 21 to 24, characterized in that, wherein~~ the final concentration of thio-NAD is 0.1 mM or more.

26. (Currently Amended) The composition for quantitative determination of myo-inositol according to ~~any one of claims claim 21 to 24, characterized in that, wherein~~ the final concentration of thio-NAD is 2 to 10 mM.

27. (Currently Amended) A method of eliminating glucose in a sample, which comprises ~~at least the steps of:~~

reacting ATP with glucose in the sample to convert them to ADP and glucose-6-phosphate; and

reacting the thus obtained ADP with glucose in the sample to convert them to AMP and glucose-6-phosphate.

28. (Currently Amended) The method of detecting mild impaired glucose tolerance or insulin secretory defect according to ~~any one of claims 1 to 4, characterized in that claim 1 or 2, wherein~~ the myo-inositol level is quantitatively determined after glucose in the sample is eliminated by a method comprising ~~at least the steps of:~~

reacting ATP with glucose in the sample to covert them to ADP and glucose-6-phosphate; and

reacting the thus obtained ADP with glucose in the sample to covert them to AMP and glucose-6-phosphate.

29. (New) The method according to claim 1, wherein a concentration of myo-inositol at a characteristic level or higher than a characteristic level indicates the subject has mild impaired glucose tolerance.